

# GIORGIO GAMBA

Software Engineer

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## PROFESSIONAL SUMMARY

Real-time systems engineer specializing in high-performance C++ for latency-critical applications. 3+ years building sub-2ms distributed systems in avionics and shipped a AA videogame to 50K+ players. Passionate about low-level optimization, concurrency and performance profiling.

## TECHNICAL SKILLS

**Languages:** C++ (Expert), C, Java, Python, JavaScript

**Frameworks:** Qt, Unreal Engine, Google ProtoBuf, DDS, Keras/TensorFlow

**Tools:** Linux, Visual Studio, Git, Docker, CI/CD Pipelines

**Specializations:** Real-time Systems, Distributed Architectures, Avionics Integration, Performance Optimization, Multi-threading, Game Development

## PROFESSIONAL EXPERIENCE

### Software Engineer | Leonardo Electronics (via Aizoon Consulting)

June 2025 – Present

- Designing avionics sensor integration using DDS and Google ProtoBuf, enabling real-time data exchange across 8+ sensors with sub-2ms latency processing 10,000+ messages/second in a safety-critical avionics environment.
- Developing a high-fidelity sensor simulator in C++ and Qt, reproducing complex avionics communication protocols to support pre-deployment testing and validation, reducing integration testing cycles by 30%.

### Software Engineer | 34BigThings

Sept 2022 – June 2025

- Led 3-engineer team for UI/UX systems implementations shipping “Carmageddon: Rogue Shift” on Steam, Xbox, and PlayStation to 50,000+ players.
- Architected C++ reflection-based framework adopted across 15+ gameplay features, accelerating development by 40% and reducing +3k lines of code by standardizing game design pattern implementation.
- Engineered procedural race track generation tool, reducing AI training time by 60% and reducing manual level design iteration time from 60 hours to <5 hours per track.

## EDUCATION

### Master's Degree in Computer Science | University of Turin

December 2019 – April 2022 | Graduated with Honors (110/110 cum laude)

- Research Thesis: Embedded deep neural networks in game servers for anti-cheat detection (95% accuracy with <50ms inference latency) within MPAI Standards Committee using C#, Unity, and TensorFlow.

### Bachelor's Degree in Computer Science | University of Turin

September 2016 – December 2019

## SELECTED TECHNICAL PROJECTS

### Avil - Audio Upscaling Detection & Spectrum Visualizer (C++, PortAudio, AVX2)

github.com/giorgiogamba/avil

- Real-time audio analysis tool implementing FFT-based frequency decomposition and AVX2-optimized signal processing for MP3 upscaling detection and command-line spectrum visualization.

### SimpleSample - Mobile Audio Sampler (Flutter, Firebase)

github.com/giorgiogamba/SimpleSample

- Cross-platform mobile application with real-time sound capture, sampler/sequencer emulation, and cloud integration for users sample sharing.

## ADDITIONAL INFORMATION

**Languages:** Italian (Native), English (Fluent - Professional Working Proficiency)

**Interests:** Electronic Music Production (organized 40+ events, 200+ attendees, €2,000+ revenue/event), Home Lab (Proxmox, self-hosted infrastructure)